

IT IS CLAIMED:

1. In a method for depositing a calcium getter film in an electronic vacuum device, by vaporizing a powder of a Ca-Al alloy within a sealed device under vacuum, an improvement for substantially reducing the amount of hydrogen released during said vaporizing comprising,

substituting for the Ca-Al alloy powder, a powder of a Ca-Ba-Al ternary alloy composed of between 50% and 60% by weight of aluminum, between 30% and 45% by weight of calcium and between 1.5% and 15% by weight of barium.

2. The improvement of claim 2, wherein said ternary alloy contains between 53% and 56.8% by weight of aluminum, between 36% and 41.7% by weight of calcium and between 1.5% and 11% by weight of barium.

3. The improvement of claim 2, wherein the ternary alloy contains between 2.5% and 5% by weight of barium.

4. The improvement of claim 1, wherein the powder of said ternary alloy has a granulometry between 50 and 250  $\mu\text{m}$ .

5. The improvement of claim 1, wherein the powder of said ternary alloy is mixed with a nickel or titanium metal powder, at a weight ratio of metal to alloy powders of between 3:1 and 1:3.

6. The improvement of claim 6, wherein the mixed metal and alloy powders also contain up to 5% by weight of a metal nitride selected from the group consisting of iron nitride, germanium nitride and combinations of the two nitrides.

7. A getter device for use in forming a calcium getter film in an electronic vacuum device, comprising a heatable container containing a powder of a ternary Ca-

Ba-Al alloy composed of between 50% and 60% by weight of aluminum, between 30% and 45% by weight of calcium and between 1.5% and 15% by weight of barium.

8. The device of claim 7, wherein said ternary alloy contains between 53% and 56.8% by weight of aluminum, between 36% and 41.7% by weight of calcium and between 1.5% and 11% by weight of barium.

9. The device of claim 8, wherein the ternary alloy contains between 2.5% and 5% by weight of the alloy.

10. The device of claim 7, wherein the powder of said ternary alloy has a granulometry between 50 and 250  $\mu\text{m}$ .

11. The device of claim 10, wherein the powder of said ternary alloy is mixed with a nickel or titanium metal powder, at a weight ratio of metal to alloy powders of between 3:1 and 1:3.

12. The device of claim 11, wherein the mixed metal and alloy powders also contain up to 5% by weight of a metal nitride selected from the group consisting of iron nitride, germanium nitride and combinations of the two nitrides.

13. An electronic vacuum device comprising  
a sealed enclosure under vacuum and having an interior wall surface, and  
coating said wall surface with a thin film composed of between 70% and 97% by weight calcium and 3% and 30% by weight barium.

14. The device of claim 13, wherein said thin film is composed of between 85% to 95% weight percent calcium and 5% to 15% weight percent barium.